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ABSTRACT

To provide a variety of projects for making things from paper, this curriculum guide suggests learning activities involving simple exploratory experiments with paper and paper boxes, more inventive experiences with articles designed from paper, and finally complicated projects designed by the students and executed from a wide range of paper materials. For each grade (K-6), sections are provided discussing (1) materials and equipment necessary, (2) organization and placement of materials, (3) guidance and motivation by the teacher, (4) children's activities, and (5) evaluations by the teacher and by the child. (JM)

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ART TEACHING GUIDES

Designing with Paper

Kindergarten - Grade 6

TE 4994 897

BUREAU OF CURRICULUM DEVELOPMENT
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FOREWORD

This is one of a series of teaching guides planned to give teachers and supervisors practical help in the implementation of important areas of instruction suggested in the curriculum bulletin *Art in the Elementary School* (Curriculum Bulletin No. 8, 1963–64 Series).

The guides have been designed to include suggestions for teaching a particular subject over a span of several grades. As a result, a teacher can use the instructional suggestions in a flexible way in accordance with the curriculum needs of the pupils in the class.

SEELIG LESTER
Deputy Superintendent of Schools

June 1968

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This curriculum bulletin, one in a series of eight *Art Teaching Guides* which present art experiences for children in kindergarten through grade 6, was prepared by the Bureau of Curriculum Development as part of its curriculum workshop program. These guides were produced under the direction of Helene M. Lloyd and William H. Bristow, Assistant Superintendents, and David A. Abramson, Acting Director, Bureau of Curriculum Development. Seelig Lester, Deputy Superintendent of Schools, was responsible for overall supervision of the program.

Developed as the result of research and evaluation by the supervisory staff of the Art Bureau, these bulletins were written under the guidance of Olive L. Riley, Director of Art, with the special assistance of Marian V. Dock and Beatrice Matthews, Art Supervisors, and George Kaye, Acting Director of Art.

Editorial preparation was supervised by Aaron N. Slotkin, Editor, Bureau of Curriculum Development. Lillian B. Amdur edited the manuscripts, and Simon Shulman was responsible for the overall design, page layout, and cover. Patricia M. Callahan, Curriculum Coordinator, coordinated the project.

KINDERGARTEN, GRADES 1 AND 2

Experimenting with and making things out of an easily manipulated material like paper is enjoyable to children of all ages. There is a fascination in tearing, cutting, folding, twisting, rolling, pinning, and pasting paper, and in discovering the many things that can be done to change its shape and form.

While paper is a familiar material, the child needs time to experiment with it to learn the characteristics of the various types, to discover that he can tear, crease, cut, coil, or pleat papers, and to understand that he can combine shapes and forms by pinning, tying, or pasting. Therefore, the teacher should encourage the pupil to experiment freely and explore continually the creative possibilities of paper to discover the many ways in which paper can be manipulated before attempting to make recognizable objects. At first the child should use only a few shapes and strips of brightly colored paper of varying types; later he will be ready to make more complex forms or articles in his own individual way.

After experimentation, the child will usually show better judgment in selecting weight, colors, and textures of the papers for his articles. Constructing useful and decorative articles in paper introduces the child to simple, practical problems in functional design. The utility of the article must be considered from the very beginning to determine the size and shape of the design, the type of construction, and the materials best suited to the purpose.

KINDERGARTEN

MATERIALS AND EQUIPMENT

Brightly colored papers: chrome, tonal, construction, plain, small-patterned, shiny, and textured; ready-cut shapes, large, irregularly shaped scraps, other shapes and strips cut by the teacher.

Other appropriate materials, such as lace paper doilies, cellophane straws, yarns, strings, cords, pipe cleaners.

Various sizes of light-weight cardboard boxes and other light-weight cardboard shapes, paper cups, colored paper muffin cups.

Scissors, stapler, paper punch, paste, gummed paper, paper fasteners.

ORGANIZATION AND PLACEMENT

For a Small Group of Children

An assortment of shapes, colors, and different kinds and sizes of paper, sorted into neat piles, folders, shallow boxes, or tote trays arranged on a shelf, desk, or table within reach of the children for easy selection.

Paper punch, stapler for teacher's use on the teacher's desk.

Paste placed on small cardboard squares or pads of newspaper set on a tray near the group.

Scissors in a small wooden box.

Assorted lengths of yarns, cords, strings, and ribbons in a small box.

For an Entire Class

Material sorted into shallow boxes, tote trays, or other containers that will permit each child to select what he wants from a wide assortment carried by monitors from table to table.

Additional working materials arranged as for a small group of children.

NOTE: Avoid flimsy papers, crepe paper, very stiff papers, and heavy cardboards.

Working with Paper

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
See all the beautiful papers we have. Notice all the different sizes and shapes. You may select the one you like best.	The child selects a few strips and ready-cut shapes of brightly colored paper from a limited number of assorted papers.
Can you select another piece of paper that you think will look pretty with the one you now have?	
Do both your papers feel the same? Can you pick a third shape that looks and feels different from the other two?	
Move the shapes around on your desk and make an arrangement you think looks pretty. Can you arrange them in still another way? Do you like this new arrangement better than the first one? Can you think of other ways to arrange your papers?	He experiments with these color shapes, using his table or desk as a background. He arranges and rearranges his papers in many ways, discovering those that are most pleasing to him. Since his arrangements are simply experimental, he need not fasten them together.
You can pick up one of your color shapes, can't you? Can you do that to a shape in your painting? How can you change the shape you are holding so that it will not be flat?	Through experimentation, the child discovers how simple folding and interlocking may be used to join parts together, making paste unnecessary.
What can you do to another color shape to make it stand by itself?	In successive experiments he discovers some of the many things he can do with paper, such as tearing, folding, rolling, pleating, creasing, curling, fringing, twisting, and cutting. He combines shapes for an arrangement that he can make permanent by using paste or other means of fastening.
Can you invent a way to combine your standing piece with one of your other shapes?	

Working with Paper and Ready-made Forms

Can you use these small cardboard boxes and shapes to make something that will look pretty? Would you select those that are all the same size or would you try to put together shapes of different sizes? When you build with cardboard shapes and boxes, how could you fasten them together?	The child selects a few cardboard forms, such as small boxes, containers, tubes, or disks, and combines them as he does in block building. He first makes trial arrangements, usually nonrealistic, and later devises ways of making his construction permanent.
Are you thinking about the colors as you are planning your arrangement? Would you repeat one of your colors in several places? Can you show where you would do this?	Sometimes he uses paint to add color to his construction. At other times, he makes free use of colored shapes which he manipulates and adds in ways that interest him.

What are some of the things it would be fun to make for our next party? Which one of these things shall we start with? What materials would you like to use? Could you use some of these large scraps of colored paper? What are some of the things that are important to think about in making your article? Select a shape that you think will be the best size and color for your idea. See if you can find a way to cut and shape it. If you want to try out several ideas, it might be best to practice first with small pieces of newspaper. Try different ways of combining your shapes. How can you fasten parts together so that your article will look pretty and will not fall apart?

Using paper cups, large paper shapes, colored yarns or cords, straws or doilies, the child undertakes the planning and construction of simple articles, such as small containers, a folder, wind toys, or party decorations.

EVALUATION

NOTE: It must be understood that some form of constructive evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Is the child showing some coordination in manipulating materials and tools?

Is he growing more independent in making choices?

Does he show some originality in cutting and shaping paper forms?

Is he able to devise ways of holding pieces together without an adhesive?

Is he able to paste neatly?

Is the child developing good work habits?

With the Child

Which standing shapes are interesting and different?

Which show various ways of using the paper, such as cutting, folding, twisting, pleating, or curling?

Which have used folding or interlocking to join parts?

Which have combined shapes in other interesting ways?

Which have been pasted neatly?

Which do you especially like? Why?

GRADE I

MATERIALS AND EQUIPMENT

Brightly colored papers: chrome, tonal, construction, plain, shiny, small-patterned papers; ready-cut shapes, large, irregular shapes and other shapes and strips previously cut by the teacher.

Various-sized cardboard boxes and other simple cardboard shapes; paper cups, colored muffin cups.

Other appropriate materials, such as lace doilies, cellophane straws, yarns, string, cords, narrow ribbons, pipe cleaners.

Scissors, stapler, paper punch, paste, gummed paper, paper fasteners, paints, brushes.

ORGANIZATION AND PLACEMENT

For a Small Group of Children

An assortment of shapes, colors, kinds, and sizes of paper sorted into neat piles, folders, or shallow boxes arranged on a shelf, desk, or table within reach of the children for easy selection.

Paper punch and stapler on the teacher's desk to be used under teacher supervision.

A small amount of paste on small cardboard squares or pads of newspaper set on a tray.

Small boxes and cardboard shapes in a carton.

Scissors in a small box.

Assorted lengths of yarns, cords, and ribbons in a small box.

For an Entire Class

Material sorted into shallow boxes or containers that will permit each child to take what he wants from a wide assortment that is carried by monitors from desk to desk.

Additional working materials arranged as for a small group of children.

NOTE: Avoid flimsy papers, crepe paper, stiff papers, and heavy cardboards.

Working with Paper

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
What interesting shapes can you make when you tear a piece of colored paper very slowly and carefully?	Continuing in his experimental approach, the child further discovers what else he can do with paper.
How many different ways can you cut a piece of paper? How many ways can you fold it?	He folds, rolls, tears, cuts, curls, and fringes paper with gradual growth in skill. The child selects a few papers of assorted sizes, shapes, and colors, and manipulates them in different ways.
What happens when you fold a paper and then cut or shape it in some way?	
	The child makes arrangements of papers combined with a few of the other suggested materials. These arrangements are usually nonrealistic.
How can you join two of your cut and folded shapes together without using paste, stapler, or fasteners?	He may discover he can use slotting and interlocking to hold pieces together, or he may devise other ways of fastening, such as weaving, folding, and piercing, that can become part of his design.
Can you add another piece or two of paper to make your arrangement more interesting? Would you like to add some other materials? Are you turning your work to see how your design looks on all sides?	He turns his piece around as he works to make it interesting from all sides.

Working with Paper and Cardboard Boxes

Here are some small cardboard boxes. Try moving them around and combining them until you make an arrangement you like. How can you fasten them together? Can you add some of your ready-cut shapes to make your arrangement more beautiful?	He selects a few cardboard boxes from the available assortment. He arranges and rearranges them to make a satisfying design, usually nonrealistic. He devises ways of fastening them together. He adds colored paper shapes that he has manipulated in various ways. He makes changes to improve parts.
How does your arrangement look when you turn it around? Do you like one side better than the others? How can you improve any part you don't like? Think also about the colors you would like to use or repeat to make your object more beautiful.	

Sometimes, when you are turning your arrangement around, you may discover that what you have made makes you think either of something real, such as a funny little party hat, a candy basket, a toy, or it makes you think of something make-believe, such as an animal that can fly. If this happens to you, think of what you could add to your arrangement to help us see your "discovery" more clearly.

What are some other things that can be made of paper? Which ones shall we try to make?

What materials will you need to create your idea? What color combinations will you use? With which piece or shape will you start? How can you add one or two other pieces to this to make your design beautiful? Will this be appropriate for your purpose?

While experimenting with colored paper shapes or boxes, some children discover that their arrangements remind them of a boat, a car, a building, a toy, an imaginary animal or bird. They then try to make the resemblance clearer by adding features that may be characteristic of such a form.

They consider the advisability of repeating certain colors to add to the effectiveness of the color scheme.

The children use learnings gained from previous experiences in paper craft to experiment in making party favors, hats, decorative headdresses for plays as well as costumes, invitations, and simple greeting cards.

EVALUATION

NOTE: It must be understood that some form of evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Is the child improving in coordination, in manipulating materials and tools?

Is he becoming more conscious of his color combinations and more selective in his color choices?

Are his arrangements showing some originality and variety in form, shape, and color?

Is he devising ways of holding pieces together? Has he made them part of his design?

Is he able to paste neatly?

Is he developing an awareness of the many things that can be done with paper?

With the Child

Which arrangements do you think have good color combination?

Which arrangements show fastenings as part of the design?

Which arrangements show new and interesting ways of using paper?

Which are most appropriate for use?

Which ones do you like best? Why?

GRADE 2

MATERIALS AND EQUIPMENT

Brightly colored papers: chrome, tonal, construction, plain, shiny, small-patterned papers; ready-cut shapes; large, irregularly shaped scraps; other shapes and strips previously cut by the teacher.

Other appropriate materials, such as lace paper doilies, cellophane straws, yarns, string, cords, narrow ribbons, pipe cleaners.

Cardboard boxes of various sizes and other simple cardboard shapes; paper cups, colored muffin cups.

Scissors, stapler, paper punch, paste, gummed paper, paper fasteners, tapestry needles, pins, ruler or other straight edge, paints, brushes.

ORGANIZATION AND PLACEMENT

For a Small Group of Children

An assortment of shapes, colors, and types of paper sorted into neat piles in folders or shallow boxes, arranged on shelf, desk, or table within reach of children for easy selection.

Paper punch and stapler on teacher's desk to be used under teacher's supervision.

A small amount of paste put on cardboard squares or pads of newspaper set on a tray.

Small boxes and cardboard shapes in a carton.

Scissors in a small box.

Assorted lengths of wools, cords, and ribbons in a small box.

For an Entire Class

Materials to be sorted into shallow boxes or containers that will permit each child to take what he wants from a wide assortment that is carried by monitors from desk to desk.

Additional working materials arranged as for a small group of children.

NOTE: Avoid flimsy papers, crepe paper, stiff papers, and heavy cardboards.

Working with Paper

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
How can you make an interesting paper design by cutting, curling, and folding a single piece of colored construction paper?	The child selects paper from an assortment of shapes, colors, and textures. He cuts, combines, and modifies his papers to form the design he wishes to make.
How can you make your design stand by itself? Do you need to add something to make it stand up better? Would you like to combine your standing piece with other pieces of paper to make it look even more beautiful?	He continues to be inventive in ways of arranging colors, textures, and shapes to make a pleasing three-dimensional form. He learns to make fastenings which will add to, rather than detract from, his design.

Working with Paper and Cardboard Boxes

Would you like to select and arrange some of these boxes? Experiment with several different ways of combining them. How would you fasten them?	The child makes a number of experimental arrangements of various sizes of boxes, such as thumbtack boxes, powder boxes, or cereal boxes.
When your arrangement of boxes is partially completed, turn it upside down and sideways; look at it from all angles. Does it suggest some familiar or imaginary object to you?	
What would you need to add to make the object more recognizable? How would you make it more beautiful?	He often discovers likenesses to a familiar object. He experiments in ways of joining parts, such as the use of tabs or strips, or the insertion of one part within another.
Can you think of some special ways of joining parts so that your object will be sturdy and strong?	
How would you go about planning a party favor, such as an imaginary animal or figure, that can stand by itself? What basic form or shape will you start with?	

What materials would you have to use to make a sturdy foundation?

What other materials besides paper would you like to use?

What parts of the animal or figure would you need to include in your design in order to make your idea clear? With what part of the animal or figure will you start—the head, the body, or the legs? What shape will you make it? How sturdy must it be? How will you make the other parts of the figure? How will you fasten the parts together so that the figure will stand, sit, turn, or bend in some way? What imaginary characteristics can you design for him? Could he have an unusual nose, ears, or tail? Could he have decorative spots or stripes? Is your animal or figure attractive in color? Do you think you want surface treatment by slitting, slotting, or punching holes? Do you want to add any additional decoration? Can you give it an appropriate name?

What are some other things that can be made of paper? Which ones would you like to try?

What materials will you need to try out your idea? How will you begin? What are some of the things you must think about as you are designing your article?

He decides the type of favor he will make. He then selects the materials essential for his design.

He designs party favors and decorations, using paper cups, cellophane straws, wools, metallic cords, doilies, and other appropriate materials.

The children use previous learnings in paper crafts to make other objects as the need arises. They plan designs with the materials available for their purpose.

EVALUATION

NOTE: It must be understood that some form of constructive evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Is the child developing in coordination in the way he manipulates tools and materials?

Is he showing increasing sensitivity in his choice of colors?

Are his arrangements becoming more varied and original?

Is he becoming more inventive in fastening paper together without the use of adhesives?

Is he inventing new ways of using paper?

Is he gaining an awareness of pleasing proportions in form and color?

Is he showing good judgment in selecting the kinds of materials he wants to put together?

With the Child

Which arrangements make the best use of color?

Which arrangements use paper in a variety of ways?

Which arrangements show invention in joining parts?

Which arrangements of boxes most effectively suggest some familiar or imaginary objects?

Where does the use of additional material, color, and shape help and clarify the idea?

Which party favors especially appeal to you? Why?

GRADES 3 AND 4

Experimenting with and making things out of an easily manipulated material like paper is enjoyable to children of all ages. There is a fascination in tearing, cutting, folding, twisting, rolling, pinning, and pasting paper and in discovering the many things that can be done to change its shape and form.

While paper is a familiar material, the child always needs time to experiment with it to learn the characteristics of those types with which he is not too familiar. By providing one initial experience in designing with a limited number of papers, the teacher can ascertain the readiness of pupils for the experiences suggested for their grade.

Third- and fourth-grade pupils will have better muscular control and will be even more inventive than younger children. These abilities, as well as their background of more varied experiences, will enable third- and fourth-grade children to manipulate papers in unique ways and to combine them with other materials with sensitivity and good judgment.

After third- and fourth-grade children have had sufficient preliminary exploratory experiences with paper and paper boxes, they will be ready for, and interested in, designing and making useful articles. These new experiences will provide a challenge to their ingenuity and to their feeling for good craftsmanship in problems of construction.

Making useful and decorative articles in paper renews the child's acquaintance with simple, practical problems in functional design. Designing a paper article begins with the personal selection of materials. The utility of the article must be considered from the very beginning in order to determine the size and shape of the design, the type of construction, and the materials best suited to the purpose of the article.

GRADE 3

MATERIALS AND EQUIPMENT

Brightly colored papers: chrome, tonal, construction, plain, shiny, small-patterned papers in ready-cut shapes and in other shapes and strips cut by the teacher; leftover scraps of paper; paper of different weights and textures.

Other appropriate materials, such as lace paper doilies, cellophane straws, yarns, cords, narrow ribbons, pipe cleaners.

Boxes of various sizes and cardboard shapes, paper cups, colored muffin cups; towels, wallpaper paste, small bowl, spoon, newspapers.

Scissors, paper punch, paste, colored and scotch tapes, gummed paper, paper clips or fasteners, tapestry needles, pins, ruler or other straight edge, stapler, paints, brushes.

NOTE: Avoid flimsy papers, crepe papers, and heavy cardboard.

ORGANIZATION AND PLACEMENT

Arrange the materials in boxes or folders and place them on desks, a table, or shelf. Arrange small items in a cutlery tray or in labeled boxes of uniform size. These may be kept in a small flat carton on the supply table.

MOTIVATION AND GUIDANCE	ACTIVITIES
Teacher Says	**Child Does**
What is meant by texture? Can you point to things in this classroom that have different textures? Select from the workbox an assortment of colored shapes and other materials that show a variety of textures. How can you combine these to make an attractive 3-D arrangement that you can hang up or stand on your desk?	The child experiments with paper shapes selected from a variety of colors and textures. He combines these with related materials to make three-dimensional arrangements.
Select a large colored shape from the box of scrap papers. Can you think about any unusual way of cutting the shape that you haven't tried before?	He becomes inventive in modifying paper shapes and in cutting the additional shapes he needs.
Must you always start at the outer edge of a piece to make a cut? Where else can you start?	
How many different ways of folding a paper shape have you discovered? Have you tried different kinds of folds on odd-shaped scrap pieces as well as on rectangles, circles, and other shapes?	He experiments and discovers many ways of folding different kinds of shapes.
Have you found out the many interesting things that happen when you cut into some of these different kinds of folds? Can you combine some other shapes and materials with these cut and folded pieces? Can you discover some new ways of fastening your pieces ?	He uses weaving, folding, rolling, pleating, creasing, curling, fringing, and twisting, as well as cutting along folds, as a means of making his shapes varied and attractive. He becomes resourceful and inventive in fastening parts by slotting, interlocking, weaving, folding, and piercing. He frequently devises a means of incorporating fastenings as part of his design.
If you wanted to make two sides of a construction the same size, how could you use a piece of scrap paper to test the length?	He learns to use a paper gauge for simple measuring.
Sometimes you need to make a neat, sharp crease. You can do this by scoring a piece of paper first. Run the point of your scissors against the straight edge of a ruler to make an indentation along which to fold.	He experiments in scoring to make cleancut folds. By scoring parallel indentations alternately, first on one side of a paper and then on the other, he finds he can make a fan fold.
What useful article can you make in which scoring would be very useful?	The child plans to make a simple, colored paper folder, approximately 6" x 9" in size.
To avoid wasting colored paper you can experiment first with a sheet of newspaper to determine the size, shape, and construction. Remember to score all folds before creasing them.	The child cuts a piece of newspaper the same size as the colored one and experiments to discover an interesting way to make a back and front cover with folded flaps along two or more edges. He uses a paper gauge to help him in making an accurate duplicate of his newspaper pattern. He uses colored paper to create a simple cut paper design for his folder.

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
How would you go about designing and constructing a party hat that would fit and look well on you? Would your hat have a crown, a peak, or a brim? What shapes could these be? How would you cut or fold your paper to make each part? Would you use stiff or flexible paper? How would you attach one part to another? Would you add any decoration?	The child plans simple constructions to suit a particular need, for example, a party hat, a headdress, or other costume or party decorations.
Does your hat fit? How does it look on you?	He carries out his plan in the materials and colors he considers suitable and effective.
Using the cardboard boxes that we have here, experiment with them, placing them on top of, next to, under, or inside of, one another to design an arrangement you like.	Grouping and regrouping the various boxes and other cardboard forms, the child builds a construction that grows both horizontally and vertically. As he builds he views his work from all sides.
Would you use the boxes as they are or would you cut and change them?	He cuts slits, varies edges, makes openings by punching, piercing, and cutting, or in other ways alters the basic shapes.
In what unusual ways could you combine them? What adjustments would you make so that the parts fit together well? What would be the best means of fastening the various parts?	He uses paper fasteners, adhesives, stitches, or interlocking to fasten the parts. He makes adjustments, as he finds them necessary, to improve the quality of his design and craftsmanship.
Does your construction suggest a particular object, such as a train, a truck, a boat, a car, a toy, an animal, or an imaginary object? What can you do to make it more recognizable?	The child may discover the possibility for creating a familiar or imaginary form which he clarifies by emphasizing recognizable characteristics.
If you want to build up or alter the surface or shape of your box structure, you may do so by adding masses of papier mache. Who has worked with papier mache? Can you explain and show us how to make and apply it? Here are the materials you need: cardboard box, wallpaper paste, bowl, spoon, cup of water, and paper towels.	The child who has worked with papier mache demonstrates the process as follows: . . tearing absorbent paper (tissues, toweling, or newspapers) into small strips or shapes; . . soaking these in a thick, creamy mixture made from wallpaper paste or flour mixed with water; . . applying masses of doughlike consistency to the surface of a cardboard box or form to create the desired effect; . . covering the modeled masses of papier mache with strips that also have been soaked in a creamy mixture of wallpaper paste or flour.
How can you add color and create a textured, patterned design on the surface of the form? Can you use some of these beads, buttons, sipper straws, pipe cleaners, wool yarn, scraps of felt, and other materials?	Suggestions are made for adding interest by imbedding or applying small objects or materials into or on the wet, adhesive surface, as well as by painting the form.
What other materials can you add to improve your design? Turn your piece around as you work and look at it from all sides.	Children suggest and contribute feathers, decorative braids, well-designed or textured swatches of fabric, metallic or patterned papers, parts from discarded costume jewelry, paper clips, thumbtacks, and other items appropriate for the design.

EVALUATION

NOTE: It must be understood that some form of constructive evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Does the child show increasing sensitivity in his choice of shapes, colors, and textures?

Is he showing inventiveness in cutting the particular shapes he needs?

Are his arrangements becoming more varied and original?

Is he inventing new ways of combining and fastening papers and other materials?

Is he adding interest to his design through the application of papier mache?

Is he able to plan a construction to suit a particular need?

Is he becoming better able to handle tools and materials skillfully?

With the Child

Where do we see unusual ways of cutting or folding paper shapes?

Where do we find a new way of folding, rolling, pleating, curling, fringing, or twisting paper? Where have these been combined most successfully?

What new way has been found to make fastenings a part of the design?

Which party hats (headdresses, costumes) are most effective in color, design, or decoration? What makes them so pleasing?

Which constructions have appeal, sturdiness, and well-fitted parts? Which do you like most? Why?

GRADE 4

MATERIALS AND EQUIPMENT

Brightly colored papers: chrome, tonal, construction, plain, shiny, small-patterned, and metallic papers in ready-cut shapes and in other shapes and strips cut by the teacher; leftover scraps of paper; paper of different weights and textures; also paper in a wide assortment of colors, shapes, and sizes; nonpictorial decorative wall papers and gift wrappings.

Other appropriate materials, such as lace paper doilies, cellophane straws, yarns, cords, narrow ribbons, pipe cleaners.

Boxes and cardboard of various sizes and shapes, paper cups, colored muffin cups.

Scissors, stapler, paper punch, paste, or an assortment of adhesives to suit the problem, colored and scotch tapes, gummed paper, paper clips or fasteners, tapestry needles, pins, ruler or other straight edge, paints, brushes.

ORGANIZATION AND PLACEMENT

Place each type of paper or related material in a separate small box. These small boxes can be stacked like trays within larger flat boxes. The large open-top boxes can be stacked in a large carton. If the carton is open at one end, the open flat boxes can be pulled out like drawers and placed on a table or desk.

Place scissors, paste, and all tools in separate boxes and set them out near the working area where children can help themselves.

NOTE: Avoid flimsy papers, crepe papers, and heavy cardboard.

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
We have in our treasure chest an interesting variety of papers and other assorted materials. Select a few and see what new things you can do with them.	
What interesting effects can you create by combining different kinds of folds? Have you tried to combine twisted and curled pieces, folded and twisted pieces? What interesting effects can you create by combining these with colored pipe cleaners, cellophane straws, lengths of colored yarn, and similar materials?	The child further experiments with an increased assortment of paper and a variety of materials. He discovers how to vary and combine such treatments as twisting, curling, pleating, fanfolding, and other more complicated forms of folding.
You know how to score a straight line. Have you tried to score a curved line? How would you go about it? Try drawing a curved line from one edge of a paper shape to another. Score it with the point of your scissors. Now see how sharp a crease you can make along this curved line. Do you like the form you have created?	The child learns to follow and score a curved line with the scissor point. In this way he can achieve still more varied forms.
Hold your experimental arrangement out at arm's length. Move it around slowly, tipping, or turning it upside down to study it from all angles. Does your arrangement suggest an unusual face or mask, an imaginary animal, bird, or fish? If not, is there any one part that might suggest the beginning of one of these forms? What could you add to it to make the suggested form more recognizable?	The child tries to discover in his experimental arrangement some suggestion of natural or imaginary forms, such as those related to the animal, bird, fish, or insect world, or to flower, plant, or tree life.
Would you like to make some favors or ornaments for our class party? How could we use them?	The child uses his newly acquired skills to plan and construct decorative objects, such as holiday decorations, favors, or costume accessories.
What particular article have you decided to create? How do you plan to construct it? What should you think of in determining its size, shape, and color? Will it be helpful to make a trial pattern or construction before working with the colored papers and some cardboard forms or boxes? What basic part of your construction will you start with? How sturdy must it be? What additional shapes or forms will you need to combine with it? How will you attach them?	
Turn your article around and look at it from all sides. Do you need to add any decorative treatment? What color should it be? How can you make the decoration a part of the total design?	Sometimes he adds colors to his constructions by using other colored papers or paint.
What are some of the things you collect and save? Let's make a folder or container in which you could keep them in an organized fashion. What should you think of in determining the size, shape, and color?	The child shows increased ability in designing and making articles which provide a challenge to his ingenuity and manual ability. He decides to make an expandable envelope, a box with or without a cover, or a booklet with fanfolds. He constructs these from folded papers or a box.

MOTIVATION AND GUIDANCE

Teacher Says

Will your container need to be sturdy? What materials do you plan to use for it? Will it help you to make a trial construction first from newspaper? How can you make parts the correct size so that they will fit? How are you going to join or fasten the parts? Will decoration add to the appearance of your article? What size, shape, and color will this be? What materials will you use?

Would you like to make a gift for some child's birthday? Could you make a toy that would be different from any other you have ever seen?

What materials do we have that might make an interesting toy? What unusual ideas do you have? How could a child play with the toy? Would it stand, hang, be carried, or pulled? Could it move in some way? How do you think you could manage this? See if you can use your materials in an original way.

ACTIVITIES

Child Does

The child shows increasing inventiveness in combining materials in purposeful ways. He experiments with materials in order to design flexible parts, such as nodding heads, flapping wings, or waving tails.

After a discussion about the possibilities for toymaking in the materials at hand, the child experiments in combining boxes, cardboard forms, colored paper shapes, yarns, sipper straws, and other suitable materials to create playful forms that can swing, hang, stand, be pulled, or made to "perform" in an amusing way.

EVALUATION

NOTE: It must be understood that some form of constructive evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Is the child showing inventiveness in manipulating and combining materials that look well together?

Is he learning to measure with a gauge and to crease, fold, score, fasten, and construct with better craftsmanship?

Is he progressing in creating original and varied articles, in judging color, proportion, textures, and general design quality?

Is he able to plan a construction to suit a particular need?

Is he becoming more skillful in the use of materials, tools, and adhesives?

With the Child

Which forms have combined two or three shapes that have been scored and pressed into curved or straight folds?

Which arrangements successfully suggest imaginary or recognizable forms?

How were these ideas developed?

Which arrangements have effectively combined colored papers and boxes?

Which ones show inventiveness in constructing a container for personal use?

Which toys have the greatest appeal?

Where have movable parts added to the effectiveness of the toy?

GRADES 5 AND 6

After many free, exploratory experiences in designing and constructing with papers and related materials, the child in these grades is prepared to preplan and make articles of his own design under the skillful guidance of the teacher.

The teacher's guidance here, as in other craft areas, may include explanations of basic techniques provided the child is permitted to do most of the problem solving himself. "How-to-do-it" methods that give step-by-step explanations do not encourage the child to experiment to discover his own practical and imaginative solutions. The child's work should be a product of his own thinking and feeling and an expression of his personality and ability.

Often the child will find it necessary to try out his ideas first by making trial constructions. From these he can select one that he considers best in design and function and use it as a pattern.

Festivities, holidays, other special occasions, or the child's own needs may serve as motivation. Sometimes his interest in other people, the products of other times and lands, his storybook world, or the world of his imagination may be the source of his inspiration. For example, a sixth-grade girl's interest in the colorful costumes of peoples of other countries may inspire her to design and construct original cardboard mannequins dressed in typical national costumes which she has created in colored paper as a result of her research.

At this level, the child can be expected to show skill in handling his tools and in manipulating the varied materials. He can be expected to show some craftsmanship in fitting and joining parts of a construction and in working out the finer details to enrich his design.

GRADE 5

MATERIALS AND EQUIPMENT

A wide assortment of different weights and textures of colored papers: chrome, tonal, construction, plain, shiny, small-patterned, metallic, ready-cut shapes; shapes and strips previously cut by teacher; leftover scraps of paper; nonpictorial, decorative wall papers; gift wrappings.

Other appropriate materials, such as lace paper doilies, cellophane straws, yarns, string, cords, narrow ribbons, pipe cleaners, plastic perforated strips, thin wire, reed in assorted sizes, thin dowel sticks, small pieces of wood, and other small wooden shapes.

Boxes of various sizes, cardboard and cardboard shapes, paper cups, and colored muffin cups.

Scissors, stapler, paper punch, paste, glue or an assortment of adhesives to suit the problem, colored and scotch tapes, gummed paper, paper clips or fasteners, tapestry needles, pins, ruler or other straight edge, paints and brushes, hammers, large-head nails, sandpaper, sturdy table.

ORGANIZATION AND PLACEMENT

Each type of paper or related material is placed in a separate small box. These small boxes are stacked like trays within larger flat boxes. The large open-top boxes are stacked like trays within a large carton. The carton is open at one end so that the open flat boxes can be pulled out like drawers and placed on a table or desk.

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
NOTE: By suggesting that children make some preliminary and experimental arrangements with a variety of materials of their own choice, the teacher will be able to determine the extent of their previous experiences with paper. If they show familiarity with some of the many ways in which paper can be manipulated, they may be considered ready to make planned articles of their own design. If it is apparent that they have not had the type of exploratory experiences suggested for earlier grades, they will need to begin, like the younger children, with the manipulation of a few paper shapes.	
Let's see how well you can design with paper. Select some paper shapes that particularly appeal to you and see what you can do with them. Can you make them stand alone? Can you fasten different shapes in a way that is all your own?	The child experiments with paper in a variety of colors and textures. He shows the extent of his previous experiences in paper by the degree of his ability to modify paper shapes by cutting, folding, scoring, and otherwise fashioning them to his liking. He devises ways of incorporating fastenings as part of his design. He adds more color if he wishes.
You are collecting some materials in relation to your research problem in social studies. What type of container do you think you will need to protect, organize, and keep them as a record of your work? Will some kind of stiff-covered portfolio or an expandable envelope serve your needs? Would more than one compartment be necessary to handle the material?	Through discussion each child determines the type of container he can use and plans its construction.
What are the first things to consider in planning an article you want to make? Shouldn't you think of the purpose, the size, the shape, the possible methods of construction, the type of materials to be used?	The child selects materials that are suitable in color, weight, type, and texture for the design and for the purpose of the article he plans to make.
Will you need to make pockets or flaps? What arrangement will you make to fit into your construction? Would it help you to make a preliminary sketch or a trial pattern of newsprint paper before you use your colored pieces?	He makes a preliminary paper pattern to try out his original idea.
Will you need any cardboard to reinforce your construction? Where will you use it? How will you conceal it?	
Will the accuracy you show in cutting, scoring, folding, measuring, joining, and fastening be an important factor in your construction?	
Who knows how to make true right angles for the corners of a construction? When covering the cardboard with colored paper, do you know how to mitre the corners before folding them so that they will be flat and square?	The child makes judgments about necessary adjustments to improve his construction. He tests his trial construction to make sure that it is practical for the purpose it is to serve.
What provisions will you make for opening and closing your folio or envelope? Will you need some means of tying or fastening it?	He works to make his article simple and sturdy in order that it will be functional.

MOTIVATION AND GUIDANCE

Teacher Says

Will you need any lettering on the outside of your folio or envelope? Can you do this on a strip of colored paper and include it as a part of your decorative treatment? Will you use cut paper, ink, or tempera paint for the lettering? How will you make the lettering and the decoration a part of your total design?

ACTIVITIES

Child Does

He uses his selected pattern to help him make an accurate duplicate in colored paper. He adds any essential lettering and decorative treatment that will enhance the usefulness and appearance of his folio or envelope.

We need a Maypole for the park fete. Do you think a group of you could design and make one that would be unusual and attractive? You have all been learning a Maypole dance. What ideas can you suggest for the design of a pole? What are some of the practical things to consider?

A group of children work together planning the design and construction of a Maypole. They consider both the practical requirements and the possibilities for imaginative decorative features of the design.

What materials will you need for the basic structure? How will you make it sturdy and durable? What colors would be most appropriate and attractive?

They select the materials they need and experiment to carry out their ideas. They consult with each other as the work proceeds to make judgments about the design, the color, and the construction.

What part of the Maypole will you construct first? Can you think of some unusual features? Can you think of some ways that would make this feature unusually attractive?

Some of the children may make rough sketches to explain their ideas to the group. The children select the ideas they like best. They decide which part of the design or construction each one will work on.

What part will you construct next? How large should it be to insure a well-proportioned design? What suggestions can you make for decorating your Maypole? What colors would you use to complete the total color scheme?

When the Maypole is partially completed, they test it for size, stability, and other necessary, practical features. As the work progresses, they make any modifications in construction or decoration which will improve the overall design.

Would you have some movable parts? How can you work this out?

EVALUATION

NOTE: It must be understood that some form of evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Is the child selecting and combining shapes and colors with greater sensitivity and thoughtfulness?

Is the child becoming more inventive in his arrangement of forms and in the ways he puts them together?

Is the child gaining in ability to devise ways of fastening parts together?

Is he gaining in awareness of pleasing proportion in form and color?

Is he developing skills in measuring accurately, fitting parts properly, creasing sharply, and finishing neatly?

With the Child

As you work, are you applying what you have learned about color and design?

Is your article becoming more and more pleasing in appearance and usefulness?

In selecting the material for your article, what consideration did you give to the purpose for which it will be used?

Is the design of your article satisfactory for its use?

How does your skill in cutting, folding, measuring, scoring, and pasting add to the quality of your design?

Does he select materials suitable for his construction?

Can he plan for and successfully carry out his ideas?

What changes would you make in the design or construction if you made another article of a similar type?

GRADE 6

MATERIALS AND EQUIPMENT

A wide assortment of colored papers of different weights and textures: chrome, tonal, construction, plain, shiny, small-patterned papers, metallic, ready-cut shapes and shapes and strips previously cut by teacher; leftover scraps of paper, nonpictorial decorative wall papers and gift wrappings.

Other appropriate materials, such as lace paper doilies, cellophane straws, yarns, cords, narrow ribbons, pipe cleaners, plastic perforated strips, thin wire, reed in assorted sizes, thin dowel sticks, sequins and small beads, small pieces of wood, short splints or "pop" sticks, spools, and other small wood shapes.

Various sizes of boxes and cardboard shapes, paper cups, colored muffin cups. Fibrous modeling mache, towels, newspapers, wallpaper paste, string, spoon, small bowl.

Scissors, stapler, paper punch, paste, glue, or an assortment of adhesives to suit the problem, colored and scotch tapes, gummed paper, paper clips, or fasteners, tapestry needles, pins, ruler or other straight edge, paints, brushes, hammer, large-head nails, sandpaper, sturdy table.

ORGANIZATION AND PLACEMENT

Each type of paper or related material is placed in a separate small box. These small boxes are stacked like trays within larger flat ones. The large open-top boxes are stacked like trays within a large carton. The carton is open at one end so that the open flat boxes can be pulled out like drawers and placed on a table or desk.

Scissors, paste, and all tools placed in separate boxes and set out near the working area where a group of children can help themselves.

MOTIVATION AND GUIDANCE	ACTIVITIES
Teacher Says	**Child Does**
What is meant by the word sculpture? Have you ever heard of paper sculpture?	The children discuss characteristics of sculptural form and application of the term in designing with paper.
How could you create a sculptural form from a single sheet of sturdy pliable paper?	
What skills could you combine? If your form is to stand, do you need a base to support it? If so, what kind of base could you make?	They create arrangements that hang or stand. They are able to cut and shape a single sheet of paper to create a form that has sculptural quality. They use line, proportion, textural treatments, and color to create forms that reflect individual sensitivity and selective judgment.
If necessary, how could you conceal the fastening in interlocking, overlapping, attached, or joined forms?	
We have in the treasure box an interesting assortment of wire, dowel sticks, reed, pipe cleaners, and other materials you may use to form the frame work for a standing or hanging arrangement. Select one or two of these materials to use with the papers you have already chosen.	Taking advantage of the wide assortment of available materials, the children devise frameworks for their arrangements.

MOTIVATION AND GUIDANCE Teacher Says	ACTIVITIES Child Does
How could you make the dowel, wire, or reed framework a visible and attractive part of your design? Try out various other materials on your framework to work out an unusual and pleasing design.	They experiment with various other materials, modifying and adjusting until they are satisfied with the results.
Do you want to make any part of your construction movable? How can you do this? What are some of the things you should think about as you work if you want a pleasing, well-balanced design?	
Look at your partially completed work and see if your design suggests a real or an imaginary form that you can make more recognizable with the addition of a few meaningful lines or shapes. Can you build up some parts through the use of papier mache?	When turning the design around as they work, they may find that the shape or forms give a clue to a real or imaginary object that they can make more apparent through simple modifications, or by addition of other lines, shapes, or forms.
Papier mache can also become a highly desirable medium with which to model entire forms in a manner similar to that used in modeling with clay. Fibrous modeling mache, or papier mache mash which you make yourself, may be used to build up forms, either with or without a basic core.	The child visualizes the method he has used in modeling with clay and recognizes the similarity to modeling with papier mache.
If you want to build large or elongated forms, you will need an inner core to support the soft mache. What familiar articles or materials do you think you can use as a core?	For use as a core to support his modeling, the child suggests plastic bottles, boxes, or other forms; odd-shaped pieces of wood, and armatures constructed from wire, as well as cardboard forms.
You also can construct your own basic core from rolls of newspaper that you join together by wrapping string around them. What are some forms that you think you can build in this way?	The child experiments, making rolls of varying lengths and thicknesses which he ties together. He discovers that he can assemble constructions that suggest animals, birds, and figures, as well as imaginary forms.
Masses of papier mache can be attached securely to the inner core and be given a smoother surface by covering them with several layers of small strips that have been saturated with wet paste laid on and smoothed with the fingers.	He applies clumps or masses of papier mache to the newspaper core in order to build up the desired form. Then, after soaking small strips of highly absorbent tissue, towels, or newspaper in thick paste, he lays them on, one at a time, overlapping the edges until the area is covered. He repeats this until many layers are applied, usually six to eight, to give a smoother contour to the entire form.
Interesting surface treatment can be achieved by imbedding small objects in the wet, adhesive surface. What small things can you suggest for this purpose?	Using colorful beads, buttons, metal fasteners, toothpicks, or other items, the child creates textured or patterned surfaces on his construction.
What other materials can you use to add beauty and personality to your modeled form? Place these materials temporarily where you think they will look best. When you have considered their relationship to the total design, attach them permanently.	He suggests the use of colorful braids, small swatches of fabric, pipe cleaners, feathers, discarded costume jewelry, and many other interesting items from which he can make a selection.

MOTIVATION AND GUIDANCE

Teacher Says

We need some costume hats for our class play. Do you think we can make them? What materials do you think we will need for the different types? What colors will be most suitable?

How will you start? Will you need a brim, a crown, a peak? What basic forms will you need to shape and fit together? What size will each part be?

Could you try out your ideas first by making a trial construction? Experiment with different ways of shaping the form. How could you fasten the parts together and conceal the joinings? Which one of your experimental designs do you like best? Do you need to make any changes to improve it? How could you use your trial construction as a pattern or a guide in making your final design?

Look at the materials we have on hand. Do you think any of these would be suitable as decoration for your hats? If not, are there any other materials that you could bring in to make your design more effective?

ACTIVITIES

Child Does

Children design and make costume accessories, stage properties, and articles related to school projects. They experiment with paper, considering the essential design elements of line, form, and color as related to functional purpose.

In a similar manner, some children may be interested in inventing figure or animal forms, buildings, vehicles, or other objects used in relation to specific school activities or other curriculum areas. Others may continue in their interest in developing their abilities for creating non-realistic, sculptural forms.

EVALUATION

NOTE: It must be understood that some form of constructive evaluation, either individual or group, should be a part of every lesson. Typical evaluation questions follow.

By the Teacher

Is he growing more skillful in the use of tools for measuring, scoring, cutting, punching holes, and fitting edges and parts together?

Is he showing good judgment in his methods of construction?

Is the child showing imagination, resourcefulness, and originality?

Is the child making wise decisions about the dimensions, colors, and appropriateness of his materials in relation to the article he is making?

Is he developing a respect for good craftsmanship and the care and use of materials?

With the Child

In what ways do you think you have improved in your handling of tools and materials?

Which articles do you think show the most originality?

Which articles are most pleasing in design?

In which articles have colors been combined most effectively?

Which ones do you like best? Why?